

FORMULATION DATA BASE CONTROL LIST

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102	Graffiti Remover
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105	Gel Hand Cleaner based on d-limonene
106	Biocidal Hard Surface Cleaner
107A&B	Low Foam Rinse Aids, Domestic/Industrial dish washing
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110	Engine Degreaser
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149	Leather Care Treatments (Lakewax 20)
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151 A&B	Aluminium Cleaners
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101. Low Viscosity Furniture Polish

Raw Material	% Weight
LAKEWAX 20	30.0
Water	17.0
Emulsogen LP ⁽¹⁾	2.5
White Spirit	30.0
Silicone Oil Emulsion (E 1044, 35%)	20.0
Antistatic Agent (Water soluble)	0.5

The above milky white emulsion is suitable for filling into trigger and aerosol packs.

102. Graffiti Remover

Raw Material	% Weight
LAKELAND AMA LF40	10.0
Water	56.0
KOH (Flake)	20.0
Dipropylene Glycol Monobutyl Ether	6.0
Methanol	5.0
Sodium Gluconate	3.0

Recommended dilutions: 10 – 20 : 1

FLOOR POLISH

Fmln No 103A

HIGH SPEED FLOOR MAINTENANCE

Excellent slip resistance and resistance to alcohol/water staining.

Ingredients	Weight Percent
WATER	43.00
DIETHYLENE GLYCOL MONOETHYL ETHYL	4.40
TRIBUTOXYETHYL PHOSPHATE	1.10
¹ FLUOROSURFACTANT (1% SOLUTION)	1.50
² PROXEL GXL	0.10
¹ MF 12 (38%)	42.00
LAKEWAX 37	7.90
TOTAL	100.00

Fmln No 103B
DURABLE POLISH

Low speed spray buffing or high speed maintenance.

Ingredients	Weight Percent
WATER	36.97
DIETHYLENE GLYCOL MONOETHYL ETHER	6.50
TRIBUTOXYETHYL PHOSPHATE	1.90
FLUOROSURFACTANT (1% SOLUTION)	0.80
¹ PROXEL GXL	0.10
² TEGO FOAMEX 7447	0.30
³ MG 2E (38%)	45.80
³ CONREZ (40%)	2.00
LAKEWAX 37	5.90
TOTAL	100.00

Fmln No 103C

HIGH GLOSS POLISH

Ingredients	Weight Percent
WATER	33.78
DIETHYLENE GLYCOL MONOETHYL ETHYL	4.20
TRIBUTOXYETHYL PHOSPHATE	3.70
¹ FLUORAD FC 129 (1% SOLUTION)	0.50
² ABEX 18S	1.20
³ TEGO FOAMEX 7447	0.02
⁴ PROXEL GXL	0.10
⁵ MG 2E (38%)	49.40
⁵ MC 1030	1.00
LAKEWAX 37	3.10
LAKEWAX 57P	3.00
TOTAL	100.00

Fmln No 103D

HIGH GLOSS, GOOD DURABILITY, LOW SLIP

Ingredients	Weight Percent
WATER	38.3
DIETHYLENE GLYCOL MONOETHYL ETHER	6.5
TRIBUTOXYETHYL PHOSPHATE	2.5
FLUOROSURFACTANT (1% SOLUTION)	0.8
¹ PROXEL GXL	0.1
² MG 2E (38%)	40.5
² CONREZ (40%)	1.9
LAKEWAX 52	10.5
LAKEWAX 37	1.7
TOTAL	100.0

Fmln No 103E

TRANSLUCENT FLOOR POLISH

Applied via sponge or cloth, gives high gloss.

Ingredients	Weight Percent
WATER	54.1
DIETHYLENE GLYCOL MONOETHYL ETHER	4.5
TRIBUTOXYETHYL PHOSPHATE	1.1
AMMONIUM HYDROXIDE (28%)	1.0
FLOUROSURFACTANT (1% SOLUTION)	0.5
¹ PROXEL GXL	0.1
C _{9/11} alcohol + 6EO	1.0
² MHL-100 (40%)	31.0
² MC 1030	4.2
LAKEWAX 37	2.5
TOTAL	100.00

Fmln No 103F

FAST DRYING, GOOD RECOATABILITY

Ingredients	Weight Percent
WATER	50.33
DIETHYLENE GLYCOL MONOETHYL ETHYL	2.60
TRIBUTOXYETHYL PHOSPHATE	2.60
¹ FLOUROSURFACTANT (1% SOLUTION)	0.60
² TEGO FOAMEX 7447	0.02
³ PROXEL GXL	0.10
⁴ ML870E LATEX (40%)	38.40
LAKEWAX 37	2.85
LAKEWAX 57P	2.50
TOTAL	100.00

Fmln No 103G
MARBLE/TERRAZZO POLISHES

18% Solids		24% Solids	
ITEM	WEIGHT%	ITEM	WEIGHT%
Water	54.51	Water	40.61
Diethylene Glycol		Diethylene Glycol	
Monoethyl Ether	2.30	Monoethyl Ether	3.24
Tributoxyethyl Phosphate	2.30	Tributoxyethyl Phosphate	3.24
Fluorosurfactant (1% soln)	0.50	Fluorosurfactant (1% soln)	0.50
¹ Tego Foamex 7447	0.02	¹ Tego Foamex 7447	0.02
² Proxel GXL	0.10	² Proxel GXL	0.10
ML-877E Latex (40%)	34.00	ML-877E Latex (40%)	47.79
MC 1030 (30% soln)	2.27		
Lakewax 37	2.00	Lakewax 37	2.50
Lakewax 57P	2.00	Lakewax 57P	2.00
TOTAL	100.00	TOTAL	100.00

Fmln No 103H

GOOD LEVELLING PROPERTIES, FAST RECOATABILITY

Ingredients	Weight Percent
WATER	50.28
DIETHYLENE GLYCOL MONOETHYL ETHYL	2.80
TRIBUTOXYETHYL PHOSPHATE	2.80
¹ FLOURAD FC 129 (1% SOLUTION)	0.50
² PROXEL GXL	0.10
³ TEGO FOAMEX 7447	0.02
⁴ ML877E (40%)	41.50
LAKEWAX 37	2.00
TOTAL	100.00

Fmln No 103I

**FORMULATIONS WITH GOOD LEVELLING, HIGH GLOSS,
HARD WEARING**

Ingredients	Weight Percent
WATER	48.72
DIETHYLENE GLYCOL MONOETHYL ETHER	2.85
TRIBUTOXYETHYL PHOSPHATE	2.60
¹ SYNPERONIC 13/6.5	0.20
² PROXEL GXL	0.10
³ POLYFOX TM-1 (1% SOLUTION)	1.20
⁴ TEGO FOAMEX 7447	0.03
³ ML 878 (40%)	39.80
LAKEWAX 37	4.50
TOTAL	100.00

Fmln No 103J

Ingredients	Weight Percent
WATER	32.34
DIETHYLENE GLYCOL MONOETHYL ETHER	7.78
TRIBUTOXYETHYL PHOSPHATE	3.00
¹ PROXEL GXL	0.10
² POLYFOX TM-1 (1% SOLUTION)	1.20
³ TEGO FOAMEX 7447	0.02
² ML 878 (40%)	46.86
² MC 3040	3.14
LAKEWAX 37	5.56
TOTAL	100.00

Fmln No 103K

Ingredients	Weight Percent
WATER	35.28
DIETHYLENE GLYCOL MONOETHYL ETHER	3.90
TRIBUTOXYETHYL PHOSPHATE	3.50
¹ PROXEL GXL	0.10
² POLYFOX TM-1 (1% SOLUTION)	1.20
³ TEGO FOAMEX 7447	0.02
² ML 878 (40%)	54.10
LAKEWAX 37	1.90
TOTAL	100.00

Fmln No 103L

Ingredients	Weight Percent
WATER	32.08
DIETHYLENE GLYCOL MONOETHYL ETHER	8.00
TRIBUTOXYETHYL PHOSPHATE	2.00
¹ PROXEL GXL	0.10
² POLYFOX TM-1 (1% SOLUTION)	1.20
³ TEGO FOAMEX 7447	0.02
² ML 878 (40%)	50.70
LAKEWAX 37	3.10
LAKEWAX 57P	2.80
TOTAL	100.00

STAINLESS STEEL CLEANER

	Raw Material	% Weight
A	Lakeland PA 100	7%
	Citric Acid	3%
	Genapol XO 50	0.2%
	Genapol LRO Liquid	0.3%
	Genapol PF 20	0.2%
	Perfume	1.0%
	Balance Water	
B	Lakeland PA 100	10%
	Genapol XO 50	0.5%
	Genapol PF 20	0.2%
	Balance Water	

ALUMINIUM/STAINLESS STEEL CLEANER

Raw Material	% Weight
Water	78.0%
Lakeland AMA LF40	5.0%
Lakeland PA 100	10.0%
Alcohol Ethoxylate (C ₁₃₋₁₅ + 9EO)	2.0%
Butyl Oxitol	5.0%
Apply by spray or cloth neat	

GEL HAND CLEANER BASED ON D'LIMONENE

	Raw Material	% Weight
A	D'Limonene	25.6%
	Alcohol Ethoxylate C ₉₋₁₁ + 6 EO	13.0%
	Oleic Acid	7.1%
	Lakeland AMA-L	10.7%
B	Triethanolamine	3.6%
	Water	40.0%

First prepare "A" using above order of addition with stirring at 50°C. In a separate container prepare solution "B" and warm to 50°C. Add (B) to (A) with stirring at 50°C and pack-off whilst at 50°C (once cooled blending is not possible/very difficult).

The above formulation produces a clear gel on cooling.

106. BIOCIDAL HARD SURFACE CLEANER

Raw Material	% Weight
Lakeland AMA	5%
Benzylammonium Chloride (50%)	5%
C ₁₃ /C ₁₅ Alcohol-ethoxylate, 7 mole	3%
NTA Solution (40%)	5%
Dipropyleneglycol-monomethyether or Butylethoxol	3%
Water	79%

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LOW FOAM RINSE AID FOR DOMESTIC AND INDUSTRIAL DISHWASHING

	Raw Material	% Weight
A	Synperonic LFRA 290*	6%
	Synperonic LFRA 30*	6%
	Citric Acid	5%
	Isopropanol	5%
	Lakeland AMA LF 40	3%
B	Synperonic LFRA 290*	10%
	Synperonic LFRA 260*	2%
	Citric Acid	5%
	Isopropanol	5%
	Lakeland AMA LF 40	5%
	Balance Water	

* Biodegradable Low Foam Alcoholalkoxylates

BEER BOTTLE LABEL REMOVER

Ingredient	WT%
Water	75.00
LAKELAND AMA LF40	1.50
Sodium Gluconate	1.00
Sodium Hydroxide Pearl	22.50

APPLICATIONS

High temperature soak-tank for removing paper labels and cleaning beverage containers

RECOMMENDED DILUTIONS

Dilute 1 part to 8 parts of water to give 2.8% NaOH.
Use a temperature of 65°C (or higher) to clean bottles.

BOTTLE WASH FORMULATIONS

Ingredient	WT%
Water	80.5
LAKELAND AMA LF40	2.0
Potassium Hydroxide 50%	11.0
Sodium Gluconate	5.0
Low Foam Nonionic	1.5

Brewery Concentrate

Ingredient	Wt%
Water	30.0
Gluconic acid (50%)	50.0
Citric acid	10.0
Lakeland CS100LF	10.0

The above concentrate is added at a rate of 0.2% concentration to a 2% solution of sodium hydroxide

Brewery Liquid

Ingredient	Wt%
LAKELAND PPE604	3.75
C12-15 +4EO alcohol ethoxylate	1.25
Sodium Citrate	10.0
Sodium Gluconate	10.0
Sodium hydroxide	1.5
Water	73.5

Materials should be blended at room temperature, to water in the order given.

FLOOR POLISH FORMULATIONS BASED ON LAKEWAX 20

109.A Wet Mop Floor Polish

% Wt	RAW MATERIAL
30	LAKEWAX 20
48.5	Water
0.5	EDTA Na ₄
1.0	Ethyl Diglycol
2.0	C ₁₃ alcohol + 8EO
3.0	C ₁₃₋₁₈ sodium alkane sulphonate
15.0	Iso-propanol

109.B Spray cleaners with Polish Effect

% Wt	RAW MATERIAL
20.0	LAKEWAX 20
57.4	Water
20.0	White Spirit
2.0	C ₁₃ alcohol + 8EO
0.1	C ₁₃₋₁₈ sodium alkane sulphonate
0.5	Fluoro surfactant (wetting agent)

109.C Wash and Wax (Vehicles)

% Wt	RAW MATERIAL
5.0	LAKEWAX 20
86.5	Water
6.0	Lakeland AMA
0.5	Imidazoline 18OH
2.0	C ₁₃₋₁₅ alcohol + 9EO

ENGINE DEGREASER

% Wt	RAW MATERIAL
38.0	DDBSA, Monoisopropylamine salt
38.0	NP 5
4.0	<i>IMIDAZOLINE 18OH</i>
20.0	Shellsol S

The above formulation should be clear when diluted 10 parts with 90 parts diesel. A 5% dilution of the diesel solution in water should yield a stable emulsion.

SHOE POLISH FORMULATIONS

LOW VISCOSITY FOR LEATHER CARE, SOLVENT FREE

Water	56.6
Kelzan S ⁽¹⁾	0.1
Silicone oil Emulsion	20.0
C ₁₃ alcohol + 5EO ⁽²⁾	0.3
Acrylic Polymer Dispersion	3.0
LAKEWAX 20	20.0

⁽¹⁾Thickening agent, Kelco

⁽²⁾eg Genapol X 050, ex Hoechst

SELF SHINE POLISH FOR BOTTLE/SPONGE APPLICATION

Water	20.0
Ethanol	10.0
Levelling/Wetting agent ⁽¹⁾	1.0
Acrylic Polymer Dispersion	8.0
Tributoxyethylphosphate	1.0
LAKEWAX A37D	10.0
LAKEWAX 20	20.0

⁽¹⁾eg Licowet F3 1% solution, ex Hoechst

112 A. Formulation With Good Filling Power For Porous Floor-Coverings:

% Weight	Material
50	LAKEWAX 20
5	Licomer A 53 Conc ⁽¹⁾
45	Water

Mix components in above order at room temperature

⁽¹⁾ Clariant

112 B. Mild Cleaning Solution for Waxed Floors:

% Weight	Material
3	LAKELAND AMA LF40
5	C _{13/15} Alcohol + 6EO
5	TKKP (50 % solution) ⁽¹⁾
87	Water

⁽¹⁾ Tetrapotassium pyrophosphate

113. LOW FOAM FLOOR CLEANER/WAX STRIPPER

	% WEIGHT	RAW MATERIAL
a.	10%	Caflon KP50 (Tetrapotassium pyrophosphate 50%)
	5%	Sodium Tripolyphosphate
	3%	Sodium Metasilicate
	6%	Lakeland AMA LF 40 or PPE 604K
	1%	Ukanil 2357 (Low Foam Fattyalcoholalkoxylate)
		Balance Water
b.	5%	Lakeland AMA LF 40 or AMA
	5%	NTA Solution (40%)
	4%	Ukanil 2357 (Low Foam Fattyalcoholalkoxylate)
	5%	Sodium Metasilicate
	4%	Closol MP2 (Dipropylene-glycolmonoethylether) or Butylethoxol
		Balance Water
c	5.0%	LDP89(Lakeland development product)
	1.0%	Sodium hydroxide
	10.0%	Potassium silicate(50% solution)
	12.0%	Tetra potassium pryophosphate
		Balance water

ALUMINIUM CLEANERS – ALKALI

114 A Soak Tank Cleaner/Brightner

Raw Material	% Weight
Lakeland AMA LF40	6
KOH (50 %)	10
EDTA powder	1
Sodium silicate solution	15
Alcohol Etoxylate (C _{9/11} + 5 – 10 EO)	2
Water	66

114 B Alkali Aluminium Brightner

Raw Material	% Weight
Lakeland AMA LF40	7
KOH (50% solution)	4
NaOH (32% solution)	20
EDTA or NTA powder	5
Alcohol Etoxylate (C _{9/11} + 5 – 10 EO)	2
Water	62

Train Cleaner-Oxalic Based

Raw Material	% Weight
Lakeland PPE 604	1.5
Water	56.0
Oxalic Acid	4.5
Orthophosphoric acid	20
Alcohol Etoxylate (C _{9/11} + 6 EO)	8
DDBSA	10

116. NON – CAUSTIC STEAM CLEANER

% Wt	RAW MATERIAL
4	LAKELAND AMA LF70
4	C _{9/11} alcohol + 6/8 EO
8	Sodium Tripolyphosphate
1	Sodium Metasilicate (5H ₂ O)
83	Water

LIQUID HAND SOAP

Raw Material	% Weight
Sodium Lauryl Ether Sulphate	30
Lakeland CAB or AMA-L	8
Oleic Acid	3
Water	59

Citric acid can be added to adjust the pH. Also NaCl can be added to increase viscosity.

GLASS CLEANERS

118.A Glass Cleaner

% Wt	RAW MATERIAL
2	LAKELAND AMA LF40
2	Acetic Acid
96	Water

118.B Ammoniated Glass Cleaner

% Wt	RAW MATERIAL
2.5	LAKELAND AMA LF40
0.5	EDTA Na ₄
2.5	Ammonia (880/890)
94.5	Water

LAUNDRY CLEANERS

119.A & B Restaurant/Hotel Laundry

% Wt		RAW MATERIAL
A	B	
8	8	LAKELAND AMA LF40
54	50	Water
25	25	KOH (50 % liquid)
8	8	C _{9/11} alcohol + 6-8EO
5	5	STPP
	4	Potassium Silicate

CREAM CLEANSERS

120.A Light Duty

% Wt	RAW MATERIAL
10	DDBSA, Na (25%)*
10	Calcium Carbonate
2	Sodium Carbonate
3	Cocodiethanolamine
0.5	AMA
74.5	Water

120.B Heavy Duty

% Wt	RAW MATERIAL
17.5	DDBSA, Na (25%)*
45	Calcium Carbonate
4	Potassium Silicate
1	C _{9/11} alcohol + 6 EO
0.5	C _{9/11} alcohol + 3 EO
0.3	AMA
31.7	Water

Oven cleaners

121A Foaming type

% Wt	RAW MATERIAL
1.5	Lakeland AMA
1.0	Ammonium lauryl sulphate (28%)
2.5	Phenol +4EO
5.0	Sodium hydroxide
90.0	water

121.B Gel type

% Wt	RAW MATERIAL
0.7	Veegum
0.3	Xanthan Gum
10.0	Sodium hydroxide 10.0
2.0	Lakeland PAE136
87.0	Water

121.C Thickened liquid

% Wt	RAW MATERIAL
1.0	Xanthan Gum
15.0	Sodium hydroxide
0.5	LDP89
83.5	water

Metal cleaners, Immersion types

122 A Light duty for ferrous and non ferrous metals

% Wt	RAW MATERIAL
4.00	Lakeland PPE604
1.20	C13-C15 alcohol +4EO
0.65	Sodium hydroxide
13.60	TKPP
80.55	Water

122B Medium duty for Ferrous and non ferrous metals

% Wt	RAW MATERIAL
4.00	Lakeland PPE604
1.20	C13-C15 alcohol +4EO
10.00	Sodium Silicate
5.00	NTA trisodium salt
78.30	Water

122.C Heavy Duty for ferrous metal

% Wt	RAW MATERIAL
4.00	Lakeland PPE604
1.20	C13-C15 alcohol +4EO
15.00	Sodium hydroxide
7.50	Sodium heptonate
15.0	Sodium silicate
57.30	Water

122D Low foam

% Wt	RAW MATERIAL
2.00	LDP89
9.00	Potassium Hydroxide
14.00	TKPP
75.00	Water

Metal cleaners, Spray types

123 A High temperature system

% Wt	RAW MATERIAL
7.00	Sodium Hydroxide
7.00	LAKELAND CS 100-LF
7.50	Sodium heptonate
5.00	NTA tri sodium salt
73.5	Water

123B Pretreatment

% Wt	RAW MATERIAL
1.50	Sodium Hydroxide
5.00	LAKELAND CS 100-LF
5.00	TKPP
5.00	NTA tri sodium salt
10.0	Sodium silicate
73.5	Water

Metal cleaners, Electrolytic

124A, Medium Foam

% Wt	RAW MATERIAL
10.00	Lakeland PPE604
3.00	C13-C15+8EO
15.00	Sodium Hydroxide
16.00	TKPP
10.00	Potassium silicate
46.00	Water

124B Low Foam

% Wt	RAW MATERIAL
13.00	LDP89
15.00	Sodium hydroxide
16.00	TKPP
10.00	Potassium Silicate
46.00	Water

Metal cleaners, Rinsing formulations

125A, Removal of silicates

% Wt	RAW MATERIAL
5.0	Sodium hexametaphosphate
20.0	Ethylan TB345*
5.0	Lakeland PPE604K
70.00	Water
* Defoamer	

125B General purpose low active rinse aid

% Wt	RAW MATERIAL
1.00	Alcohol alkoxyate
2.00	Phenol +4EO
5.00	Lakeland PPE604K
1.00	Sodium hydroxide
91.0	Water

126. Trailer Curtain Cleaner – Low Foam

% Wt	RAW MATERIAL
5.0	LAKELAND AMA LF40
3.0	LAKELAND CS100-LF
6.0	Butyl Diglycol
5.0	TKPP (50%)
7.0	NTA Solution (38%)
3.5	Sodium Hydroxide (32 %)
70.5	Water

Carpet Cleaners

127A Foaming Cleaner, Hand Application

% Wt	RAW MATERIAL
5.0	LAKELAND AMA
2.0	LAKELAND PAE 136
6.0	Lauryl Ether Sulphate (28%)
7.0	Tetrapotassium Pyrophosphate (50%)
3.0	C ₁₄ – C ₁₈ fatty acid 2-ethylhexylester
77.0	Water

Low Foaming Carpet Cleaners

127B

% Wt	RAW MATERIAL
6.0	LAKELAND AMA LF40
2.0	LAKELAND PAE 802
8.0	Sodium Silicate (50%)
6.0	Sodium Tripolyphosphate
4.0	C ₁₄ – C ₁₈ fatty acid 2-ethylhexylester
2.0	NTA Na ₃ (38%)
72.0	Water

127C

% Wt	RAW MATERIAL
6.0	LAKELAND AMA LF40
3.5	Low foam non-ionic
2.0	NTA Na ₃ (38%)
2.0	Sodium metasilicate
6.0	Sodium Tripolyphosphate
80.5	Water

128A. Industrial Laundry Detergent

% Wt	RAW MATERIAL
6.0	LAKELAND AMA
1.5	EDTA Na ₄
3.0	TKPP (50%)
3.0	Sodium Metasilicate
5.0	C _{9/11} + 6 EO
81.5	Water

128B. Laundry Detergent, Hotels etc

% Wt	RAW MATERIAL
8.0	LAKELAND AMA LF40
12.0	KOH Flake
5.0	STPP
5.0	C _{9/11} + 6 EO
5.0	Potassium Silicate
81.5	Water

129. Machine Dishwash Products

a. Liquid

% Wt	RAW MATERIAL
5.00	Sodium Gluconate
10.00	Sodium Hydroxide
3.00	EDTA, trisodium salt
3.00	Lakeland CS100LF
79.0	Water

b. Liquid concentrate

% Wt	RAW MATERIAL
1.5	Sodium Gluconate
0.5	Sodium metasilicate
15.00	NTA, trisodium salt
5.00	Lakeland CS100LF*
16.00	Sodium hydroxide
62.00	Water

* pre neutralise prior to addition

130. METAL WORKING

A. SEMI-SYNTHETIC FLUID (MICRO EMULSION)

Water	-	25.0%
Paraffinic Oil	-	20.0%
Boric Acid	-	15.0%
Fatty Acid	-	15.0%
Lakeland PAE 185	-	5.0%
Monoethanolamine	-	20.0%

The above is a clear micro emulsion which can be diluted to 5% in water for use.

B. SOLUBLE OIL

Petroleum Sulphonate	-	20.0%
Lakeland PAE 185	-	8.0%
Naphthenic Oil	-	62.0%
Rapeseed Oil	-	5.0%
Triethanolamine	-	5.0%

The above is a clear solution and when diluted forms milky emulsion.

C. SYNTHETIC (AQUEOUS BASED) CUTTING FLUID

Water Soluble Polyalkylene Glycol	-	20.0%
Lakeland PPE 604	-	10.0%
Triethanolamine	-	6.0%
Lakeland AMA LF 40	-	20.0%
Water	-	44.0%

The above is a clear and low foaming solution that is soluble in water in all proportions.

131. HEAVY DUTY DEGREASER - ALKALI

Raw Material	% Weight
Lakeland AMA or AMA LF40	8
KOH (50 %)	20
EDTA powder	4
Butyl Oxitol	3
Alcohol Etoxylate (C _{9/11} + 8 – 10 EO)	2
DDBSA	1.5
Water	61.5

132. INSECT REPELLANT HARD SURFACE CLEANER

Raw Material	% Weight
Lakeland AMA	7.000
Alcohol Ethoxylate C ₉₋₁₁ + 6 EO	4.000
EDTA powder	4.000
Merck Insect Repellent 3535	3.000
Perfume Citroder 56021	0.200
Perfume Alpin 560289	0.200
Dye Duramine Blue	0.002
Water	85.598

The above product should be diluted 10 - 15 % and applied by cloth / mop during normal cleaning procedures.

133. ANTI-GRAFFITI COATING

Raw Material	% Weight
Water	40.86
Ethyl Diglycol	0.84
Tributoxyethyl Phosphate	0.36
⁽¹⁾ Zonyl FSP (1% solution)	0.48
Benzisothiazolone (biocide)	0.10
⁽²⁾ Morcryn MC-1030	5.95
⁽³⁾ Morton ML-877E (40%)	12.45
Lakewax 37	30.96

The above should be applied neat by spray and allowed to dry. Removal of coating is accomplished using a mild alkaline cleaner through a pressure washer or using a volatile amine or ammonia solution.

⁽¹⁾ ex-Dupont

⁽²⁾ ⁽³⁾ ex Omnova Solutions, UK.

134. Formulation With Good Filling Properties For Porous/Wood Floors

% Weight	Material
50.0	LAKEWAX 20
5.0	Licomer A 53 Conc ⁽¹⁾
5.0	Butyl Oxitol
0.2	Imidazoline 18OH
39.8	Water

⁽¹⁾ Clariant

135. High Alkaline, Highly built, Low Foam Cleaner, for Dairy/Food Processing

% Weight	Material
6.0	LAKELAND CS100LF
20.0	Sodium Hydroxide Prills
15.0	EDTA Na ₄
59.0	Water

136. Aluminium Degreaser

% Weight	Material
4.5	LAKELAND LDP 80
2.0	LAKELAND AMA LF40
10.0	TKPP (50% solution)
4.5	Sodium Metasilicate (5 H ₂ O)
4.0	C _{9/11} alcohol + 4/5 EO
75.0	Water

137. Cleaner/Descaler, Light Duty

% Weight	Material
2.0	LAKELAND PA 100
2.0	LAKELAND AMA
4.0	Citric acid
1.0	C _{9/11} alcohol + 4/5 EO
81.0	Water

138. Wheel Cleaner

% Weight	Material
2.0	LAKELAND PA 100
2.0	LAKELAND AMA LF40
0.3	IMIDAZOLINE 18OH
30.0	HCl conc
1.0	C _{9/11} alcohol + 4/5 EO
64.7	Water

139 - Screenwash Formulation

0.6% Lakeland AMA LF40

5% IPA or butyl oxitol

0.2% DDBSA (Na Salt)

Balance water

Perfume and dye

This formulation is to be used as is, with no further dilution necessary.

Personal Care

140A Hand Cleaner

% Wt	RAW MATERIAL
15	Lakeland CTA/N
30	Lauryl Ehter Sulphate (27%)
	Citric Acid, to pH 6.5
	Sodium Chloride, to desired viscosity
Balance	Water

140.B Shower Gel

% Wt	RAW MATERIAL
12	Lakeland CAB
25	Lauryl Ehter Sulphate (27%)
	Citric Acid, to pH 6.5
	Sodium Chloride, to desired viscosity
Balance	Water

140.C Economical Hair Shampoo

% Wt	RAW MATERIAL
9	Lakeland CAB
25	Lauryl Ehter Sulphate (27%)
3	Coconut Diethanolamide
	Citric Acid, to pH 7.0
	Sodium Chloride, to desired viscosity
Balance	Water

140.D Foam Bath

% Wt	RAW MATERIAL
12	Lakeland CAB
20	Lauryl Ehter Sulphate (27%)
3	Coconut Diethanolamide
	Citric Acid, to pH 7.0
	Sodium Chloride, to desired viscosity
Balance	Water

Upholstery Cleaner

Ref 141

% Wt	RAW MATERIAL
4.0	LAKELAND AMA LF40
3.0	Sodium Metasilicate (5H ₂ O)
2.0	EDTA Na ₄
6.0	Butyl Oxitol
1.0	Propan-2ol
84.0	Water

Traffic Film Removers (Pressure Wash)

Standard TFR 142.1

% Wt	RAW MATERIAL
5.0	LAKELAND AMA
5.0	Sodium Metasilicate (5H ₂ O)
4.0	NTA Na ₃ powder
2.0	EDTA Na ₄ powder
2.0	Alcohol Ethoxylate (C ₉ -C ₁₁ + 6EO)
0.6	Sodium Hydroxide
81.4	Water

Neutral TFR 142.2

% Wt	RAW MATERIAL
3.5	LAKELAND AMA
2.3	PAE 136
5.0	Sodium Metasilicate (5H ₂ O)
4.0	NTA Na ₃ powder
2.0	EDTA Na ₄ powder
2.0	Alcohol Ethoxylate (C ₉ -C ₁₁ + 6EO)
0.3	Sodium Hydroxide
80.9	Water

STEAM CLEANING

Ref 143

Steam Cleaning concentrate

% Wt	RAW MATERIAL
16.0	Tetra potassium pyrophosphate
15.0	Potassium hydroxide
10.0	Potassium silicate
3.75	LAKELAND PPE604
1.25	C12-15 +4EO alcohol ethoxylate
54.0	Water

Low foam steam concentrate

% Wt	RAW MATERIAL
10.0	LAKELAND CS100LF
2.0	Sodium hydroxide
10.0	Sodium metasilicate
20.0	Tetrapotassium pyrophosphate
58.0	Water

Materials should be blended at room temperature, to water in the order given

ABBATOIR CLEANERS

Ref 144

Low Foam

% Wt	RAW MATERIAL
3.0	LAKELAND CS100LF
5.0	Sodium hydroxide prills
3.0	EDTA tri sodium salt
10.0	Sodium meta silicate
79.0	water

Medium Foam

% Wt	RAW MATERIAL
5.5	LAKELAND PPE604K
0.7	C9-11 +6EO alcohol ethoxylate
5.0	Sodium hydroxide prills
3.0	EDTA tri sodium salt
10.0	Sodium metasilicate
75.8	Water

High foam

% Wt	RAW MATERIAL
2.0	LAKELAND AMA
10.0	Sodium hydroxide
88.0	Water

Materials should be blended at room temperature, to water in the order given

Low Foam Parts Cleaner (for machinery)

4% AMA LF40
10% Caustic
12% Metso
6% Sequestrant
4% nonionic
7% PAE 803K

LOW FOAM FLOOR CLEANER/WAX STRIPPER
Ref 146

% Wt	RAW MATERIAL
6.0	LAKELAND AMA LF40
6.0	Tetrapotassium Pyrophosphate
0.2	Low Foam Alkoxylate
2.0	Sodium meta silicate
85.8	water

HIGH ACTIVE DISHWASHING LIQUID

Ref 147

% Wt	RAW MATERIAL
10.0	LAKELAND AMA
11.7	Caustic Soda Solution (32%)
47.3	Sodium Alkyl Ether Sulphate (27% Na salt)
26.0	Alkyl Benzene Sulphonic Acid (Broad Cut)
5.0	Coconut Diethanolamide

Add Sodium Alkyl Ether Sulphate to the Lakeland AMA stir until clear. Add the Caustic Soda solution with stirring followed by the Coconut Diethanolamide. Add the Alkyl Benzene Sulphonic Acid slowly with stirring. Heating may be required to improve viscosity and to eliminate trapped air in the product during manufacture.

The pH of the product should be 6.5 - 7.5.

This product can be diluted to desired activity, normally between 10 - 30%, and if required can be taken to desired viscosity by the addition of salt.

148. Heavy Duty Liquid Laundry Detergent

Water	-	44.75%
Tall Oil Fatty Acid	-	4.85%
Potassium Hydroxide (90%)	-	1.10%
Lakeland AMA	-	15.00%
Lakeland LF60	-	3.00%
Lakeland PPE 604	-	1.00%
NTA Na ₃ (38%)	-	5.80%
Tetrapotassium Pyrophosphate	-	14.00%
Alcohol Ethoxylate (C ₁₃₋₁₅ , 9 Mole EO)	-	9.30%
Lakeland PAE 802	-	1.00%
Tinopal DMS/X	-	0.20%

Add TOFA to the water then the KOH and stir until homogeneous. Add the remaining RM's in the above order (except Tinopal). Stir until homogeneous. Add the Tinopal with stirring until a clear fluorescent solution is obtained (heating to 40 °C may be necessary). The product should be used in automatic washing machine at dilution of 11-13 ml/L depending on water hardness.

Leather Care Treatments

Low Viscosity, Self Shine Emulsion for bottles with Sponge Applicators

10%	Ethanol
30%	Water, partly replaced by water soluble dyes or pigments are used for colouring
1%	Tributoxyethylphosphate (Plasticizer)
50%	Lakewax 20
8%	Acrylic Polymer Dispersion
1%	Levelling / wetting agent

Fine Leather Care Products

47.4%	Water
0.1%	Kelzan S
24.7%	Silicon Oil emulsion E10
0.3%	Nonionic Emulsifier (Genapol X 050)
2.5%	Polymer Dispersion (Mowilith DM 772)
25%	Lakewax 20

Notes on the above formulations:

Solvents are used in shoe polish formulations to aid cleaning. They dissolve soluble oil, particularly oily substances. Naphtha fractions such as white spirit / mineral spirits (140 – 200 °C) or more volatile boiling point spirits are preferred. The latter do not penetrate deeply into the leather and hence reduce the danger of staining sensitive leather. Ethanol is often used as a flow agent, antifoaming and wetting agent in aqueous care products.

Plasticizers are used to improve wetting properties of liquid care products and the flexibility of the film after drying.

Acrylic Polymer Dispersions improve water repellency and abrasion resistance. They should aid in producing a high gloss finish with excellent water resistance.

Levelling / Wetting Agents are used for the fine tuning of low viscosity emulsions or aqueous leather finishes. 1-2% of a 1% fluorosurfactant solution are added.

Kelzan S, a consistency regulator is used to produce a heat stable shoe polish with a softer consistency. They are predispersed in water prior to the addition in the batch.

Silicone oil dissolves in the solvent and is incorporated together with it since it cannot be homogeneously mixed with waxes. After solvent evaporation, it acts in the wax film as a lubricant and improves buffability without adversely affecting the other properties of the film. The water repellency of silicone oil is also an advantage.

150. Tile Cleaner

% Weight	Material
2.5	LAKELAND PA 100
3.0	LAKELAND AMA LF40
4.0	Sulphamic acid
12.5	Phosphoric acid
2.0	Low foam alcohol ethoxylate/Prop[oxylate
76.0	Water

Aluminium Cleaners

151 A Light Duty, eg Bathrooms

% Wt	RAW MATERIAL
1.00	LAKELAND PA 100
1.00	LAKELAND AMA
2.00	Propan-2-ol
2.50	Citric acid
0.50	C _{9/11} alcohol + 6EO
1.50	Sodium Lauryl Ether Sulphate (3EO)
92.00	Water

151 B Heavy Duty, eg Wheel Cleaning

% Wt	RAW MATERIAL
5.00	LAKELAND PA 100
0.10	IMIDAZOLINE 18OH
0.50	C _{9/11} alcohol + 6EO
5.00	Citric or Sulphamic acid
10.00	Phosphoric acid
	Water

152. Plastic Cleaner

% Wt	RAW MATERIAL
2.00	LAKELAND AMA
5.00	LAKELAND PA800TEA
0.30	C _{9/11} alcohol + 6EO
1.00	Sodium Lauryl Ether Sulphate (3EO)
91.70	Water